	Application No.	Applicant(s)
Notice of Allowability	10/789,029	IVERSON, DAVID
	Examiner	Art Unit	
	Wilbert L. Starks, Jr.	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the filing of 06/25/2007*.

2. ☒ The allowed claim(s) is/are *1,8,9,11,15,31,38,39,41 and 45-49*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

Reasons For Allowance

1.   Claims 1, 8-9, 11, 15, 31, 38-39, 41, 45-49 are allowed.

2.   The following is an Examiner's statement of reasons for allowance:

The cited prior art taken alone or in combination fails to teach the claimed

invention of an "inductive monitoring system," as claimed by Applicant. Specifically,

independent claims 1 and 31 disclose that they "...index the clusters of the cluster

database based on an indexing distance of each of the clusters from a predetermined

indexing reference point" and organizing "...the clusters into a data structure of clusters

based on the cluster indexing."

The closest prior art of Sirosh (U.S. Patent Number 6,226,408 B1; dated 01

MAY 2001; class 382; subclass 224) teaches the following:

> In a preferred embodiment, for each input vector V_i, each cluster
> center produces an output code that represents both its distance from
> the input vector and how strongly it is connected to the weighted
> topology representing graph 120. To make the coding robust and scale-
> free, the distance-rank of the cluster center is used. Also, as a measure
> of connectedness, the length of the shortest-path, in the graph, of the
> current center to the closest cluster center to the input vector is used.
>
> One preferred embodiment of the encoding process 108 is as follows:

> 1. Compute All Pairs Shortest Paths between each pair of cluster centers C.sub.i and C.sub.j in graph, using edge weight as the length of each edge. Floyd's algorithm may be used to determine the shortest paths.
>
> 2. Loop over the input vectors V. For each data vector V.sub.i :
>
> 2.1. Find the Euclidean distance of vector V.sub.i to each cluster center C.sub.k.
>
> 2.2. Sort the distances in ascending order and assign each cluster center C.sub.k a rank r.sub.k from 0 . . . K-1. Let q be the **index** of closest cluster center, i.e. cluster center C.sub.q has rank r.sub.q =0.
>
> 2.3. For each cluster center C.sub.k, determine an output code O.sub.k : ##EQU5##

But fails to teach or suggest that they "...index the clusters of the cluster database based on an indexing distance of each of the clusters **from a predetermined indexing reference point**" and organizing "...the clusters into a data structure of clusters based on the cluster indexing." Only to the extent that the prior art or record does not contain these features, independent claims 1 and 31 and their dependents are found to be allowable over the art of record.

Further, independent claims 11 and 41 disclose that "when at least one of the monitored-system vectors is not contained in any cluster, to determine a deviation distance of the at least one monitored-system vector from a nearest cluster, to associate the determined deviation distance with a severity of a deviation of the at least one monitored-system vector from the nearest cluster..."

The closest prior art of Sirosh (U.S. Patent Number 6,226,408 B1; dated 01 MAY 2001; class 382; subclass 224) does not teach any such treatment of data outliers. Only to the extent that the prior art of record does not contain this feature, the present

independent claims 11 and 41, and their dependents are found to be allowable over the art of record.

Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

A.   Hoffberg et al. (U.S. Patent Number 6,400,996 B1; dated 04 JUN 2002; class 700; subclass 083) discloses an adaptive pattern recognition based control system and method.

B.   Tran et al. (U.S. Patent Number 6,157,935 A; dated 05 DEC 2000; class 715; subclass 503) discloses a remote data access and management system.

C.   Medl (U.S. Patent Number 6,108,004 A; dated 22 AUG 2000; class 715; subclass 804) discloses a GUI guide for data mining.
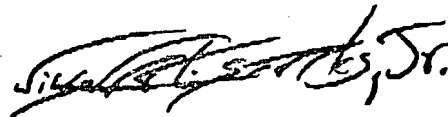
Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Wilbert L. Starks, Jr. whose telephone number is (571) 272-3691.

Alternatively, inquiries may be directed to the following:

S. P. E. David Vincent   **(571) 272-3080**

Official (FAX)   **(571) 273-8300**

Wilbert L. Starks, Jr.
Primary Examiner
Art Unit 2129

WLS

01 OCT 2007